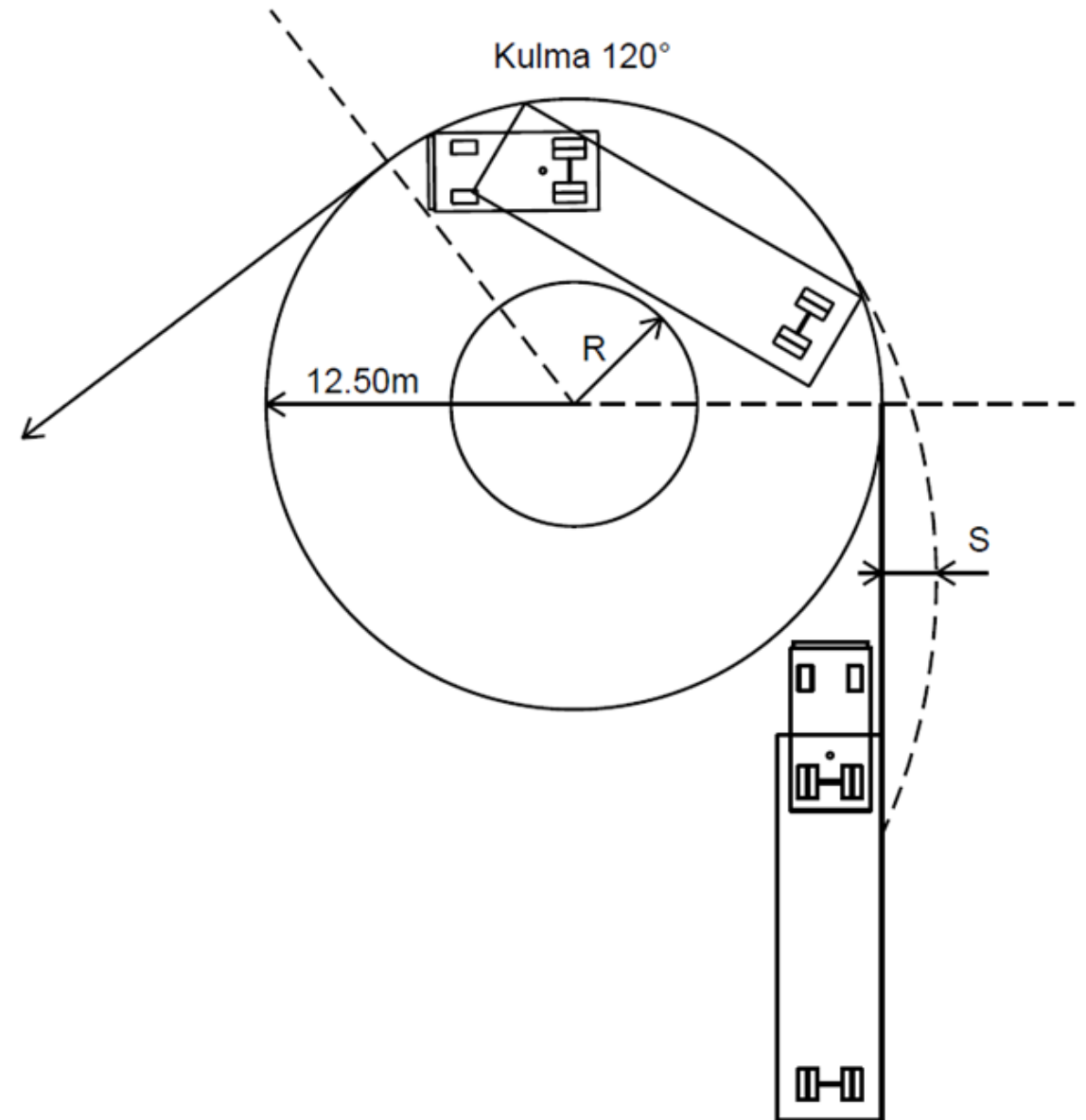


Finnish stability and turning rules

Otto Lahti
21.1.2020

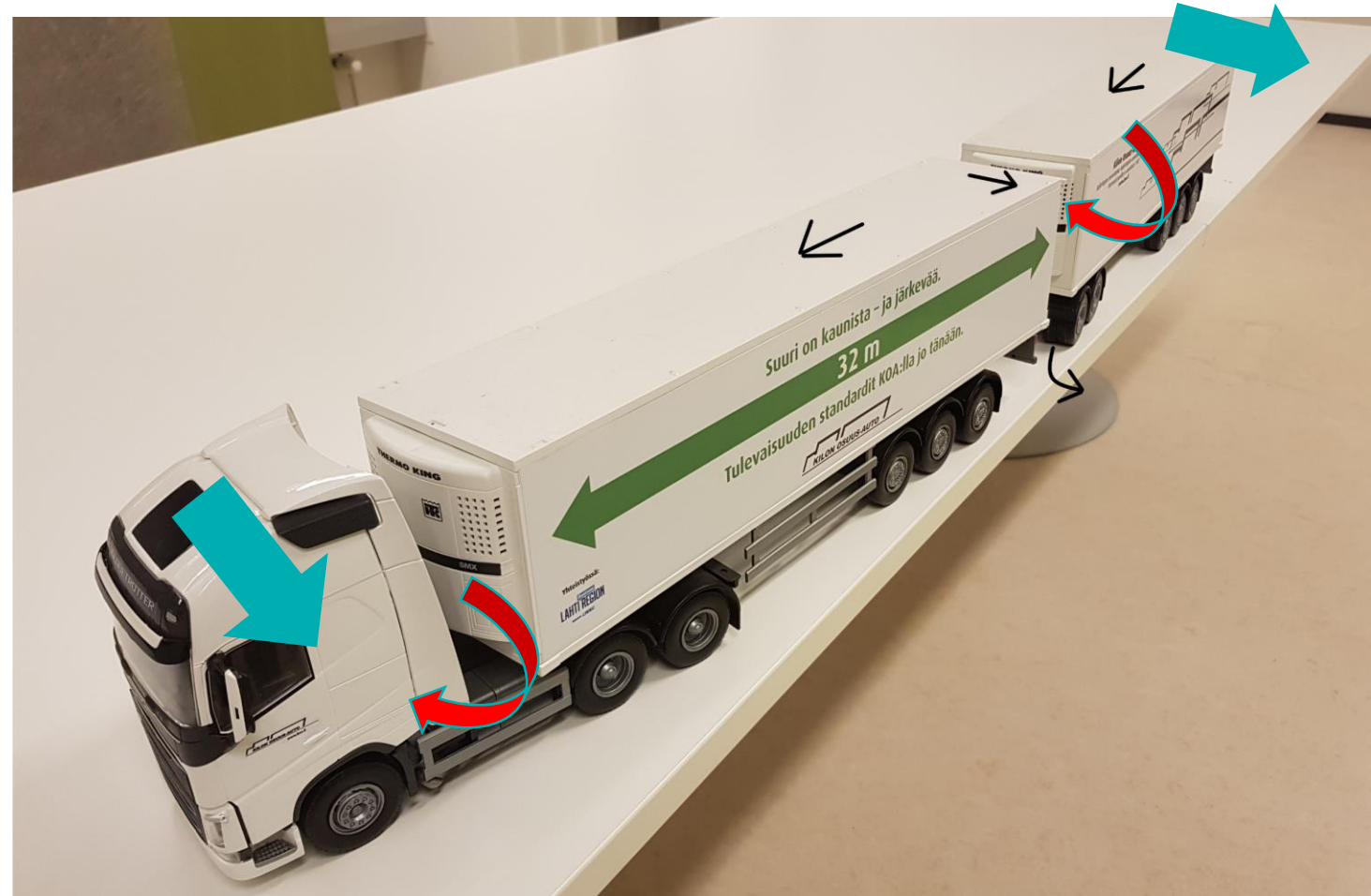
The Turning rule

- ▶ Based on EU best practice book for special transport
- ▶ R_{min} 400 cm
- ▶ S_{max} 80 cm
- ▶ Trade off
 - ▶ R_{min} 370 cm
 - ▶ S_{max} 50 cm



The stability rule

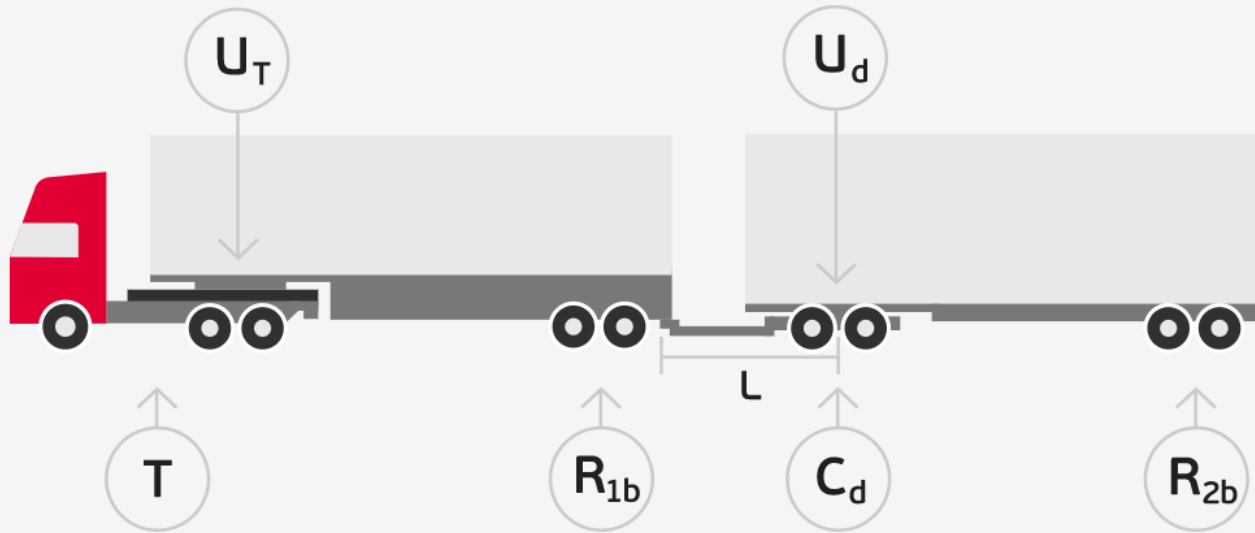
- ▶ Limits for Ra-values in double lane change
- ▶ Acc (blue arrow)
- ▶ Yaw (red arrow)
- ▶ Only for combinations with three joints



How rules should look to user

PERFORMANCE VALUES

Tractor unit + semitrailer + dolly + semitrailer

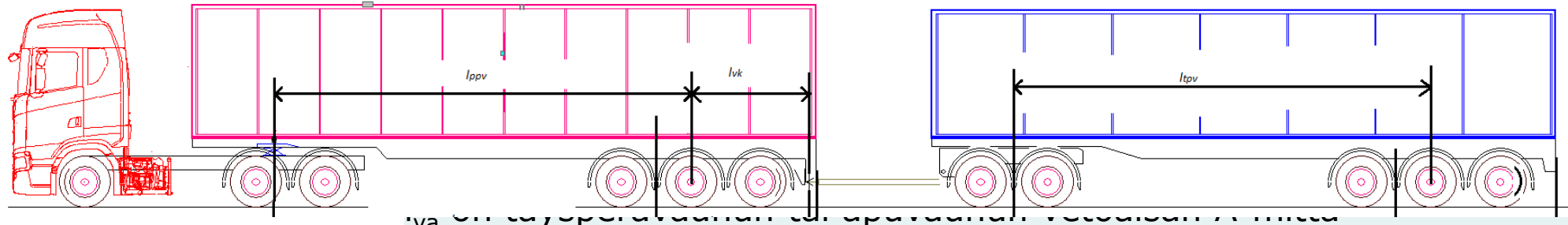


T _____ tonne (?)
 C_d _____ tonne (?)
 R_{1b} _____ tonne (?)
 R_{2b} _____ tonne (?)
 U_d _____ tonne (?)
 U_T _____ tonne (?)
 W_d _____ tonne (?)
 L _____ metres (?)

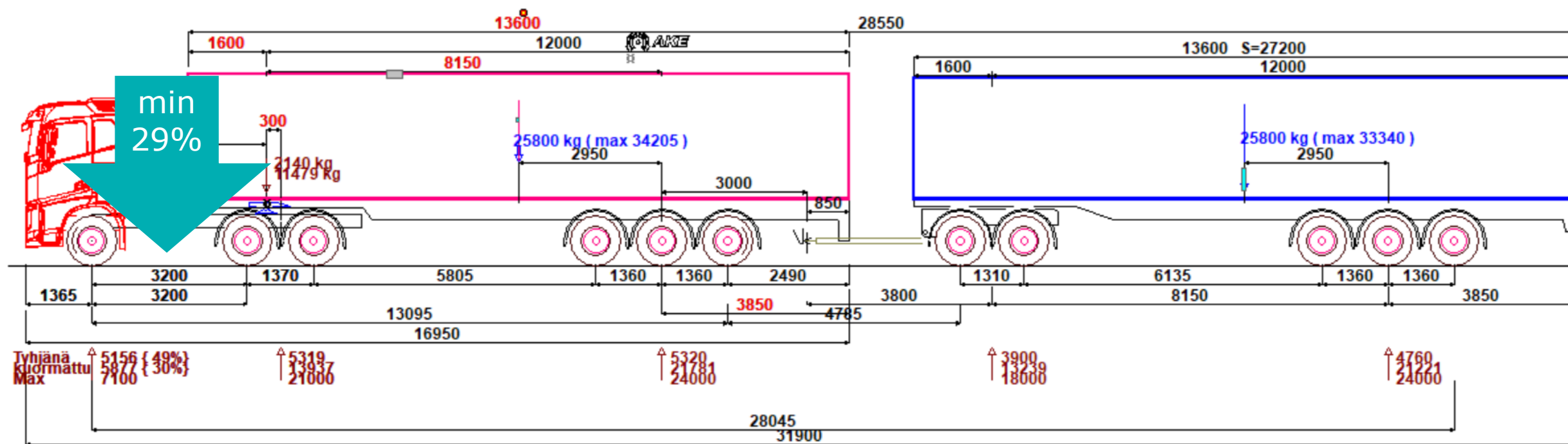
Calculate

Excel tool calculates the stability values

Lppv	Ltpv	Lvk	Lva				RA Yaw
8550	7700	3203	3650				1,926
						Enintään	1,9
l_{ppv} on puoliperävaunun akseliväli vetotapista telin painopisteeseen [mm];							RA acc
							3,974
							4



Trailerwinn



! Kääntyvyys-> CornerWIN 120°Finland (26\$) (tätä ei ole huomioitu laskuissa)
 ! yhdistelmän kokonaispaino 76055 > 76000kg
 ! Ra Yaw: 1,81 -> Ok (max 1,9) Lppv: 8,15 Lvk: 3 Lva: 3,8 Ltpv: 8,15
 ! Ra Acc: 3,97 -> Ok (max 4)
 ! kokonaispaino 76055 kg * 5kW -> Min: 380kW (Vi229 §23 6.)

The rules are
useless if the drivers
and police don't
understand them